WING GROUP

The wing is of all-metal, fully cantilevered construction, fabricated as a single unit and jointed through the lower portion of the upper lobe of the fuselage. The wing incorporates four engine nacelles, integral fuel tanks, trailing edge flaps, and ailerons. The in-flight refueler airplane incorporates wing tip pods to house the reel, hose and drogue equipment.

The material used in construction of the wing and wing surfaces is primarily aluminum alloy. The wing main bending and torque box consists of three aluminum alloy extruded spars with extruded caps and stiffeners. The front and rear spars are full span and the center spar terminates at the outboard nacelle. The wing skin is roll tapered aluminum alloy with Y section extruded aluminum alloy stringers riveted to the upper skin and I section aluminum alloy stringers riveted to the lower skin. The wing leading edge is of semi-monocoque construction with inner formed sheet and duct for de-icing. The leading edge is replaceable.

The integral fuel tanks are located between the front and rear spars from the wing Station 0 to Station 1057 for the IFR airplane and Station 72 to Station 1057 (less center-to-rear-spar section Station 72 to Station 337) for the Logistic Transport.

The nacelle sections aft of the structural firewall are of semi-monocoque construction incorporating four engine mount longerons. The material of construction is primarily high temperature steel or titanium.

The wing control surfaces consist of the flaps with flap vanes and the ailerons with tabs. The material used in the control surfaces is predominantly 75ST aluminum. Ribs and skin are formed from sheet stock and spar caps are extruded. The flaps are hinged on a five-bar type linkage similar to the conventional four-bar type, and are hydraulically operated. The lower skin of the flap and aileron in the region aft of the nacelles is corrosion resistant steel or titanium, depending on engine exhaust temperature requirements.

The IFR wing tip pod is of semi-monocoque construction utilizing Z section frames. A large access door is provided for removal of the hose reel or accessory servicing. The tip pod is attached to the wing by tension bolts at fittings at the front and rear wing spars.